CLAIMS

What is claimed is:

1. A method, comprising:

one or more communication devices coordinating transmissions of data packets to function as an access point with respect to a first mobile station and a second station wirelessly communicatively coupled to the one or more communication devices; and

the one or more communication devices wirelessly transmitting a first packet and a second packet to the first mobile station and the second mobile station respectively at different time or at time when the transmissions overlap, at least partially, based on whether transmissions of the first and second packets would interfere with each other.

2. The method of claim 1, further comprising the one or more communication devices operating as a communication channel in accordance with a wireless communication protocol.

3. The method of claim 1, wherein the one or more communication devices and the first and second mobile stations accommodate packet transmissions at a substantially identical communication frequency.

4. The method of claim 1, further comprising scheduling, at a switch coupled to the one or more communication devices, transmissions of the first packet and the second packet to avoid interference that would prevent one or both of the transmissions from being received by the first and second mobile stations.

5. The method of claim 4, further comprising:

detecting whether substantially concurrent transmission of the first and second packets will cause interference prior to performing the scheduling; and

transmitting the first and second packets to the first and second mobile stations without performing the scheduling, if overlapping transmissions of the first and second packets will not cause interference.

6. The method of claim 5, wherein if substantially concurrent transmission of the first and second packets causes interference, the method further comprises transmitting the first and second packets to the first and second mobile stations respectively according to the schedule.

7. The method of claim 1, further comprising coordinately scheduling, at the one or more communication devices, transmissions of the first packet and the second packet to avoid interference that would prevent one or both of the transmissions from being received by the first and second mobile stations.

8. The method of claim 1, further comprising:

determining whether the first and second packets are to be transmitted substantial simultaneously to the first and second mobile stations; and

transmitting the first and second packets to the first and second mobile stations at different time slots to avoid the interference, if the first and second packets are selected for substantially simultaneously transmission.

9. The method of claim 1, further comprising maintaining in a first database information regarding whether communications of the one or more communication devices interfere with each other.

10. The method of claim 9, further comprising:

examining the first database to determine whether communications of the one or more communication devices interfere with each other; and

delaying one of the first and second packets to be transmitted to the respective mobile station if communications of the one or more communication devices interfere with each other.

11. The method of claim 9, further comprising periodically transmitting a test packet to collect interference information.

12. The method of claim 1, further comprising maintaining in a second database a list of corresponding set of communication devices associated with the first and second mobile stations respectively.

13. The method of claim 12, further comprising:

examining the second database to determine whether there are multiple communication devices associated with the first and second mobile stations that, when transmitting substantial currently, will interfere with each other; and

delaying transmissions of one of the first and second packets to the respective mobile station if the transmissions from themultiple communication devices associated to the first and second mobile stations will interfere with each other.

14. The method of claim 1, further comprising:

performing address translation on the first and second packets to determine respective Ethernet MAC addresses based on respective destination IP addresses of the first and second packets;

identifying one or more communication devices closest to the first and second mobile stations having the respective Ethernet MAC addresses;

determining whether interference will occur between the transmissions that would prevent completion of the transmissions; and

scheduling the transmissions of the first and second packets to avoid the interference if interference would occur between the transmissions.

15. A method, comprising:

receiving, at a switch, first data and second packets designated for delivering to a first mobile station and a second mobile station respectively;

detecting whether overlapping transmissions of the first and second packets will result in interference that would prevent completion of the transmissions;

scheduling transmissions of the first and second packets to avoid the interference if overlapping transmissions of the first and second packets will result in interference; and

transmitting the first and second packets to one or more communication devices coupled to the switch.

16. The method of claim 15, wherein if overlapping transmissions of the first and second packets will not result in interference that would prevent completion of the transmissions, the method further comprises transmitting wirelessly from the one or more communication devices the first and second packets to the first and second mobile stations respectively without delay.

17. The method of claim 15, wherein the one or more communication devices are operating as a communication channel in accordance with a wireless communication protocol.

18. The method of claim 15, wherein the one or more communication devices and the first and second mobile stations transfer packets at substantially identical communication frequency.

19. The method of claim 15, further comprising:

performing address translation on the first and second packets to determine respective Ethernet MAC addresses based on respective destination IP addresses;

identifying one or more communication devices closest to the first and second mobile stations having the respective Ethernet MAC addresses;

determining whether there is an interference between overlapping wireless communications of the identified one or more communication devices; and

performing the scheduling if there is an interference among the identified one or more communication devices.

20. A method, comprising:

receiving, at a switch, a packet destined to a mobile station; and

transmitting the packet to a communication device communicatively coupled to the switch, wherein the packet is forwarded wirelessly to the mobile station when no other communications destined to the mobile station is occurring,

wherein the communication device and other communication devices coupled to the switch coordinate transmissions of data packets to function as an access point with respect to the mobile station.

21. The method of claim 20, wherein the communication device and other communication devices are operating as a communication channel in accordance with a wireless communication protocol.

22. The method of claim 20, wherein the communication device and other communication devices, and the first mobile station are operating at substantially the same communication frequency.

23. The method of claim 20, further comprising:

determining, at the switch, whether immediately transmission of the packet to the mobile station will cause an interference with other communications destined to the mobile station that would prevent completion of the transmission; and

delaying the transmission of the packet to the mobile station if it is determined that an interference would occur.

24. The method of claim 23, further comprising scheduling the transmission of the packet at an alternative time slot where no other communications destined to the mobile station are occurring if it is determined that no interference would otherwise occur.

25. The method of claim 23, further comprising transmitting the packet to the mobile station without delay if it is determined that no interference would occur.

26. The method of claim 20, further comprising:

determining a communication device closest to the mobile station; and

scheduling, based in part on a location of the closest communication device, the transmission of the packet to the mobile station, such that there are no other communications occurring to the mobile station.

27. The method of claim 26, wherein determining the closest communication device comprises:

performing address translation on the packet to determine an Ethernet MAC address corresponding to a destination IP address of the packet; and

identifying a communication device associated with the mobile station having the determined Ethernet MAC address as the closest communication device.

28. The method of claim 27, wherein the address translation is performed via a table stored within the switch.

29. A system, comprising:

one or more communication devices coupled to a switch, the one or more communication devices communicating wirelessly with one or more mobile stations,

wherein the one or more communication devices coordinate transmissions of data packets to function as an access point with respect to the one or more mobile stations.

30. The system of claim 29, wherein the switch manages communications between the one or more communication devices and the one or more mobile stations.

31. The system of claim 29, wherein the one or more communication devices operate as a communication channel in accordance with a wireless communication protocol.

32. The system of claim 29, wherein the one or more communication devices and the one or more mobile stations operate at substantially the same communication frequency.

33. An apparatus, comprising:

means for one or more communication devices coordinating transmissions of data packets to function as an access point with respect to a first mobile station and a second station wirelessly communicatively coupled to the one or more communication devices; and

means for the one or more communication devices wirelessly transmitting a first packet and a second packet to the first mobile station and the second mobile station respectively at different time or at time when the transmissions overlap, at least partially, based on whether transmissions of the first and second packets would interfere with each other.

34. An apparatus, comprising:

means for receiving, at a switch, first data and second packets designated for delivering to a first mobile station and a second mobile station respectively;

means for detecting whether overlapping transmissions of the first and second packets will result in interference that would prevent completion of the transmissions;

means for scheduling transmissions of the first and second packets to avoid the interference if overlapping transmissions of the first and second packets will result in interference; and

means for transmitting the first and second packets to one or more communication devices coupled to the switch.

35. An apparatus, comprising:

means for receiving, at a switch, a packet destined to a mobile station; and

means for transmitting the packet to a communication device communicatively coupled to the switch, wherein the packet is forwarded wirelessly to the mobile station when no other communications destined to the mobile station is occurring,

wherein the communication device and other communication devices coupled to the switch coordinate transmissions of data packets with each other to function as an access point with respect to the mobile station.